AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application.

<u>Listing of Claims</u>

Claim 1-56 (canceled)

Claim 57 (currently amended)   A computer readable medium comprising computer executable instructions for performing a method for acquiring data using an array scanner comprising:

scanning an area of a substrate having a plurality of different polymers of known sequence, wherein each type of polymer is on a localized area that is smaller than 250000 microns^2;

receiving pixel data from the scanner; ~~and~~

<u>collecting pixel data; and</u>

~~collecting pixel data to generate~~ <u>generating</u> an average intensity ~~over~~ <u>for</u> a given localized area.

Claim 58 (previously presented)   The computer readable medium of Claim 57 wherein the method further comprises issuing commands to move a scan stage.

Claim 59 (previously presented)   The computer readable medium of Claim 57 wherein the method further comprises outputting the pixel data to an image data file and displaying the image data.

Claim 60 (previously presented)   The computer readable medium of Claim 57 wherein the polymers are nucleic acids and the substrate is hybridized with a sample.

Claim 61 (previously presented)   The computer readable medium of Claim 60 wherein the polymers are peptides.

Claim 62 (previously presented) The computer readable medium of Claim 57 wherein the substrate has at least 400 polymers per cm^2.

Claim 63 (previously presented) The computer readable medium of Claim 57 wherein the substrate has at least 1000 polymers per cm^2.

Claim 64 (previously presented) The computer readable medium of Claim 57 wherein the substrate has at least 10000 polymers per cm^2.

Claim 65 (currently amended) A computer software product comprising:

computer program code that scans an area of a substrate having a plurality of different polymers of known sequence, wherein each type of polymer is on a localized areas that is smaller than 250000 microns^2;

computer program code that receives pixel data from the scanner;

computer program code that collects pixel data;

computer program code that generates to generate an average intensity over for a given localized area; and

a computer readable medium for storing the codes.

Claim 66 (previously presented) The computer software product of Claim 65 further comprising computer program code that issues commands to move a scan stage.

Claim 67 (previously presented) The computer software product of Claim 66 further comprising computer program code that outputs the pixel data to an image data file and displays the image data.

Claim 68 (previously presented) The computer software product of Claim 65 wherein the polymers are nucleic acids and the substrate is hybridized with a sample.

Claim 69 (previously presented) The computer software product of Claim 65 wherein the polymers are peptides.

Claim 70 (previously presented)   The computer software product of Claim 65 wherein the substrate has at least 400 polymers per cm^2.

Claim 71 (previously presented)   The computer software product of Claim 65 wherein the substrate has at least 1000 polymers per cm^2.

Claim 72 (previously presented)   The computer software product of Claim 65 wherein the substrate has at least 10000 polymers per cm^2.

Claim 73 (currently amended)   A system for acquiring data using a polymer scanner comprising:

a processor; and a memory being coupled to the processor, the memory storing a plurality of machine instructions that cause the processor to perform a plurality of logical steps when implemented by the processor, the logical steps comprising:

scanning an area of a substrate having a plurality of different polymers of known sequence, wherein each type of polymer is on a localized area that is smaller than 250000 $microns^2$;

receiving pixel data from the scanner; ~~and~~

collecting pixel data; and

generating ~~to generate~~ an average intensity ~~over~~ for a given localized area.

Claim 74 (previously presented)   The system of Claim 73 wherein the logic step further comprises issuing commands to move a scan stage.

Claim 75 (previously presented)   The system of Claim 74 wherein the logic step further comprises outputting the pixel data to an image data file and displaying the image data.

Claim 76 (previously presented)   The system of Claim 75 wherein the polymers are nucleic acids and the substrate is hybridized with a sample.

Claim 77 (previously presented)   The system of Claim 76 wherein the polymers are peptides.

Claim 78 (currently amended)   A computer readable medium comprising computer executable instructions for performing a method comprising:
scanning a polymer array to obtain a plurality of intensity data, wherein the polymer array has a plurality of different polymer probes of known sequence, wherein each type of polymer probe occupies a localized area less than 250000 microns^2, and wherein the array has been contacted with a sample that may contain a target; and determining the positions of probe and target interaction based upon the intensity data and collecting pixel data and generating to generate an average intensity for over a given localized area.

Claim 79 (previously presented)   The computer readable medium of Claim 78 wherein the polymer probes are nucleic acids.

Claim 80 (previously presented)   The computer readable medium of Claim 78 wherein the polymer probes are oligonucleotides.

Claim 81 (previously presented)   The computer readable medium of Claim 80 wherein the intensity data reflects the hybridization of the oligonucleotide probes and the target.

Claim 82 (previously presented)   The computer readable medium of Claim 78 wherein intensity data are florescence data.

Claim 83 (previously presented)   The computer readable medium of Claim 78 wherein the substrate has at least 400 polymer probes per cm^2.

Claim 84 (previously presented)   The computer readable medium of Claim 78 wherein the substrate has at least 1000 polymer probes per cm^2.

Claim 85 (previously presented)   The computer readable medium of Claim 78 wherein the substrate has at least 10000 polymer probes per cm^2.

Claim 86 (currently amended)   A computer software product comprising:

computer program code that scans a polymer array to obtain a plurality intensity data, wherein the polymer array has a plurality of different polymer probes, of known sequence, wherein each type of polymer probe occupies a localized area less than 250000 microns^2, and wherein the array has been contacted with a sample that may contain a target;

computer program code that determines the positions of probe and target interaction based upon the intensity data and the computer program code collects pixel data and generates to generate an average intensity for over a given localized areas; and

a computer readable medium for storing the codes.

Claim 87 (previously presented)   The computer software product of Claim 86 wherein the polymer probes are nucleic acids.

Claim 88 (previously presented)   The computer software product of Claim 86 wherein the polymer probes are oligonucleotides.

Claim 89 (previously presented)   The computer software product of Claim 88 wherein the intensity data reflects the hybridization of the oligonucleotide probes and the target.

Claim 90 (previously presented)   The computer software product of Claim 86 wherein intensity data are florescence data.

Claim 91 (previously presented)   The computer software product of Claim 86 wherein the substrate has at least 400 polymer probes per cm^2.

Claim 92 (previously presented)   The computer software product of Claim 86 wherein the substrate has at least 1000 polymer probes per cm^2.

Claim 93 (previously presented)   The computer software product of Claim 86 wherein the substrate has at least 10000 polymer probes per cm^2.

Claim 94 (currently amended)   A system for acquiring data using a polymer scanner comprising:

a processor; and a memory being coupled to the processor, the memory storing a plurality of machine instructions that cause the processor to perform a plurality of logical steps when implemented by the processor, the logical steps comprising:

scanning a polymer array to obtain a plurality of intensity data, wherein the polymer array has a plurality of different polymer probes of known sequence, wherein each type of polymer probe occupies a localized area less than 250000 microns^2, and wherein the array has been contacted with a sample that may contain a target; and

determining the positions of probe and target interaction based upon the intensity data and collecting pixel data and generating to generate an average intensity over for a given localized area.

Claim 95 (previously presented)   The system of Claim 94 wherein the polymer
probes are nucleic acids.

Claim 96 (previously presented)   The system of Claim 95 wherein the polymer
probes are oligonucleotides.

Claim 97 (previously presented)   The system of Claim 96 wherein the intensity data
reflects the hybridization of the oligonucleotide probes and the target.

Claim 98 (previously presented)   The system of Claim 97 wherein intensity data are
florescence data.

Claim 99 (previously presented)   The system of Claim 94 wherein the substrate has at
least 400 polymer probes per cm^2.

Claim 100 (previously presented)   The system of Claim 94 wherein the substrate has at
least 1000 polymer probes per cm^2.

Claim 101 (previously presented)   The system of Claim 94 wherein the substrate has at
least 10000 polymer probes per cm^2.

Claim 102 (currently amended)   A system for scanning a polymer array comprising:

    a scanning optical device;

    a polymer array having different polymers of known sequence wherein each type
of polymer is in a localized area;

a processor; and a memory being coupled to the processor, the memory storing a plurality of machine instructions that cause the processor to perform a plurality of logical steps when implemented by the processor, the logical step comprising collecting intensity data from less than ½ of each of the localized areas and generating ~~to generate~~ an average intensity ~~over~~ for a given localized area.

Claim 103 (previously presented)   The system of Claim 102 wherein the polymer array is a nucleic acid probe array.

Claim 104 (previously presented)   The system of Claim 103 wherein the polymer array is a peptide array.

Claim 105 (previously presented)   The system of Claim 104 wherein the polymer array has at least 400 polymers per cm^2.

Claim 106 (previously presented)   The system of Claim 105 wherein the polymer array has at least 1000 polymers per cm^2.

Claim 107 (previously presented)   The system of Claim 106 wherein the polymer array has at least 10000 polymers per cm^2.

Claim 108 (currently amended)   A computer readable medium comprising executable instructions for acquiring data from a polymer array, comprising:

scanning a substrate having a plurality of different polymers, of known sequence, wherein each type of polymer is in a localized area , having an area smaller than 250,000 $microns^2$,

acquiring data which indicate binding between the polymer on the substrate and a detectable target polymer; ~~and~~

collecting pixel data; and

generating ~~to generate~~ an average intensity ~~over~~ for a given localized area.

Claim 109 (previously presented)   The computer readable medium of Claim 108 wherein the target polymer is a polypeptide.

Claim 110 (previously presented)   The computer readable medium of Claim 109 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 111 (previously presented)   The computer readable medium of Claim 110 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 112 (previously presented)   The computer readable medium of Claim 111 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 113 (previously presented)   The computer readable medium of Claim 108 wherein the target polymer is a nucleic acid.

Claim 114 (previously presented)   The computer readable medium of Claim 113 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 115 (previously presented)   The computer readable medium of Claim 114 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 116 (previously presented)   The computer readable medium of Claim 115 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 117 (previously presented)   The computer readable medium of Claim 108 wherein the data are fluorescence intensities.

Claim 118 (previously presented)   The computer readable medium of Claim 108 wherein the substrate is an impermeable substrate having at least 1000 polymers/cm^2.

Claim 119 (previously presented)   The computer readable medium of Claim 108 wherein each of the known locations is smaller than 10,000 or 2,500 $microns^2$.

Claim 120 (currently amended)   A computer software product comprising

computer program code that scans a substrate having a plurality of different polymers, of known sequence, at localized areas, each of which an area smaller than 250,000 $microns^2$;

computer program code that acquires data which indicate binding between the polymer on the substrate and a detectable target polymer and collects pixel data and generates to generate an average intensity for over individual localized areas; and

a computer readable medium for storing the codes.

Claim 121 (previously presented)   The computer software product of Claim 120 wherein the target polymer is a polypeptide.

Claim 122 (previously presented)   The computer software product of Claim 121 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 123 (previously presented)   The computer software product of Claim 122 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 124 (previously presented)   The computer software product of Claim 123 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 125 (previously presented)   The computer software product of Claim 120 wherein the target polymer is a nucleic acid.

Claim 126 (previously presented)   The computer software product of Claim 125 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 127 (previously presented)   The computer software product of Claim 126 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 128 (previously presented)   The computer software product of Claim 127 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 129 (previously presented)   The computer software product of Claim 120 wherein the data are fluorescence intensities.

Claim 130 (previously presented)   The computer software product of Claim 120 wherein the substrate is an impermeable substrate having at least 1000 polymers/cm^2.

Claim 131 (previously presented)   The computer software product of Claim 120 wherein each of the known locations is smaller than 10,000 or 2,500 microns^2.

Claim 132 (currently amended)   A computer readable medium comprising executable instructions for acquiring data from a polymer array, comprising:

scanning a substrate having a plurality of different polymers of known or detectable sequence at localized areas, each of which are smaller than 250,000 microns^2; and

acquiring data which indicate binding between the polymer on the substrate and a detectable target polymer; ~~and~~

collecting pixel data; and

generating ~~to generate~~ an average intensity for ~~over~~ a given localized area.

Claim 133 (previously presented)   The computer readable medium of Claim 108 wherein the target polymer is a polypeptide.

Claim 134 (previously presented)   The computer readable medium of Claim 109 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 135 (previously presented)   The computer readable medium of Claim 110 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 136 (previously presented)   The computer readable medium of Claim 111 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 137 (previously presented)   The computer readable medium of Claim 108 wherein the target polymer is a nucleic acid.

Claim 138 (previously presented)   The computer readable medium of Claim 113 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 139 (previously presented)   The computer readable medium of Claim 114 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 140 (previously presented)   The computer readable medium of Claim 115 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 141 (previously presented)   The computer readable medium of Claim 108 wherein the data are fluorescence intensities.

Claim 142 (previously presented)   The computer readable medium of Claim 108 wherein the substrate is an impermeable substrate having at least 1000 polymers/cm^2.

Claim 143 (previously presented)   The computer readable medium of Claim 108 wherein each of the known locations is smaller than 10,000 or 2,500 microns^2.

Claim 144 (currently amended)   A system for controlling a polymer scanner comprising:

a processor; and a memory being coupled to the processor, the memory storing a plurality of machine instructions that cause the processor to perform a plurality of logical steps when implemented by the processor, the logical steps comprising:

scanning a substrate having a plurality of different polymers, of known or detectable sequence, at localized areas, each of which are smaller than 250,000 microns^2; and

acquiring data which indicate binding between the polymer on the substrate and a detectable target polymer; ~~and~~

collecting pixel data; and

~~generating~~ ~~to generate~~ an average intensity for ~~over~~ a localized area.

Claim 145 (previously presented)   The system of Claim 144 wherein the target polymer is a polypeptide.

Claim 146 (previously presented)   The system of Claim 145 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 147 (previously presented)   The system of Claim 146 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 148 (previously presented)   The system of Claim 147 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 149 (previously presented)   The system of Claim 144 wherein the target polymer is a nucleic acid.

Claim 150 (previously presented)   The system of Claim 149 wherein the solid substrate has at least 400 probe polymers per cm^2.

Claim 151 (previously presented)   The system of Claim 150 wherein the solid substrate has at least 1000 probe polymers per cm^2.

Claim 152 (previously presented)   The system of Claim 151 wherein the solid substrate has at least 10,000 probe polymers per cm^2.

Claim 153 (previously presented)   The system of Claim 144 wherein the data are fluorescence intensities.

Claim 154 (previously presented)   The system of Claim 144 wherein the substrate is an impermeable substrate having at least 1000 polymers/cm^2.

Claim 155 (previously presented)   The system of Claim 144 wherein each of the known locations is smaller than 10,000 or 2,500 $microns^2$.

Claims 156-158 (canceled)